

Remarks

Reconsideration and approval of this application are respectfully requested.

No claims are added or cancelled by this amendment. Claims 1-21 thus remain under consideration in this application.

Claims 1 and 10 are amended. It is believed that no new matter is added by these amendments.

Claim 10 is revised merely to provide antecedent basis for the term "alkaline salt."

Applicant acknowledges, with thanks, that the previously stated rejections under 35 U.S.C. 112 have been withdrawn.

All the pending claims continue to stand rejected under 35 U.S.C. 103(a) from some combination of publications including Ruff et al (5,066,472) or Breneman (4,743,344) in view of WO 03/033115 (using Hirano et al, US 2004/0258596 as unofficial English translation) and Terry et al (3,900,312) and Keller et al (3,878,291).

In the response filed on April 23, 2010, the applicant asserted that all the prior art rejections should be withdrawn because WO 03/033115 is essential to all the stated rejections but is not prior art.

In the Office action of July 13, 2010, the examiner asserted that WO 03/033115 is prior art because the priority application (U.S. Provisional Application No. 60/459,867, filed April 1, 2003) allegedly does not support certain limitations found in the pending claims.

Reconsideration of this issue and withdrawal of the citation of WO 03/033115 are requested.

With regard to claim 1 (and in part with regard to claims 8 and 15), the Office action mentions three limitations that allegedly are not supported by the disclosure of Provisional Application No. 60/459,867.

1. "low volatility"

The term "low volatility" is not essential to claim 1 and so is removed by this amendment.

2. "in the absence of liquid water"

The text of Provisional Application No. 60/459,867 provides clear support for the term "in the absence of liquid water."

Specifically, at page 9, lines 15-22, Provisional Application No. 60/459,867 states:

"Because the moisture is carried into the process in the form of a hydrated solid, there is substantially no free moisture within the process. The metal chlorides, for example aluminum chloride, have a much stronger affinity for moisture than the alkali carbonate hydrate. Thus the environment within the mixer/drier is maintained in a state where no condensation of water or hydrochloric acid occurs, thus reducing the corrosive effect. The mixer/drier can be constructed of a duplex stainless steel alloy such as Ferillium that is much less expensive than the nickel/chromium/molybdenum alloys or glass enameled equipment that would otherwise be required." (Emphasis added)

Provisional Application No. 60/459,867 makes it clear that avoidance of liquid water / HCl is a significant benefit of the claimed methods. The problems of liquid water are explained, for example, in the background of Provisional Application No. 60/459,867, at page 3, lines 7-15:

"All of these present processes, without exception, result in contacting the residue with liquid water. The reaction of water with either the residual chlorosilanes or the metal chloride impurities results in the formation of corrosive hydrochloric acid. Therefore, the process equipment must be constructed of corrosion resistant materials. Leaks and spills provide a high likelihood of environmental contamination and worker exposure to corrosive materials. Furthermore, the aqueous hydrolysis of chlorosilanes results in the formation of silica solids not only within the reaction mixture, but the solids can deposit on the interior portions of the equipment causing a process limiting build-up or plugging of pipelines." (Emphasis added)

Thus there is clear support in the priority application, filed on April 1, 2003, for the term "in the absence of liquid water."

3. "at a temperature greater than 80°C"

The Office action observes:

"It is noted that in the Provisional Application '867, it is disclosed in step 3) 'Subjecting the substantially non-volatile solid residues to the action of selected alkaline hydrate solids at a temperature in excess of about 80°C to yield a stable substantially neutral' . . .'"

The Office action then goes on to state:

"however, the temperature in this step is only for a process treating the residue from a chlorosilane manufacturing process, not for a process treating a generic 'flowable solid material' as required in Applicant's claim 1. Also this temperature is only applicable when 'selected alkaline hydrate solids' are used, not for a generic 'hydrate' as now required in Applicants' claims 8 and 15."

Applicant respectfully asserts that such conclusions are not correct.

Claim 13 of Provisional Application No. 60/459,867 called for:

"A method of processing a flowable solid material that includes at least one metal chloride, the method comprising: contacting a flowable solid material that includes at least one metal chloride with a flowable solid hydrate in a vessel at a temperature from 80° to 150°C such that the at least one metal chloride reacts with the hydrate . . ." (Emphasis added)

The priority application, filed on April 1, 2003, thus contemplated 80°C as the base temperature for treating a "flowable solid material that includes at least one metal chloride" in contact with "a flowable solid hydrate." The disclosure of Provisional Application No. 60/459,867 clearly was not limited just to "a process treating the residue from a chlorosilane manufacturing process" or to "selected alkaline hydrate solids."

Those skilled in the art will recognize that "150°C" was stated in the above-quoted language of the provisional application only because it is impractical to heat beyond that temperature, not that it is an absolute ceiling temperature.

This is supported by the provisional application at page 4, lines 10-13 where no upper temperature is stated in a similar circumstance:

“Subjecting the substantially non-volatile solid residues to the action of selected alkaline hydrate solids at a temperature in excess of about 80°C to yield a stable, substantially neutral or somewhat basic solid suitable for disposal or precious metal recovery.”

Conclusion

The rejections of claims 1, 8, and 15 under 35 U.S.C. 103(a) should be withdrawn because WO 03/033115 is essential to all the stated rejections, but is not prior art.

Claims 1, 8, and 15 are fully supported by Provisional Application No. 60/459,867 and thus have an effective filing date of April 1, 2003.

That filing date is before the date of publication of WO 03/033115 (in Japanese language). Therefore, WO 03/033115 is not prior art with regard to claims 1, 8, and 15.

Claims 2-7, 9-14, and 16-21 depend from claims 1, 8, and 15. Claims 2-7, 9-14, and 16-21 thus are allowable for at least the reason that they depend from allowable claims.

However, each of claims 2-7, 9-14, and 16-21 defines a further improvement in its own right so that each such claim should be considered separately.

Reconsideration and issuance of a Notice of Allowance are requested.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

By

Richard J. Belley
Registration No. 28,107

One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204
Telephone: (503) 595-5300
Facsimile: (503) 595-5301